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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/783,375 | 02/14/2001 | Douglas Michael Johnescu | BERG-2572/C2685 | 2317 |

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Jonathan M. Waldman
Woodcock Washburn Kurtz
Mackiewicz & Norris LLP
One Liberty Place - 46th Floor
Philadelphia, PA 19103

| EXAMINER | |
|---|---|
| TSUKERMAN, LARISA Z | |
| ART UNIT | PAPER NUMBER |
| 2833 | 6 |

DATE MAILED: 07/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/783,375 | JOHNESCU, DOUGLAS MICHAEL | |
| | Examiner | Art Unit | |
| | Larisa Z Tsukerman | 2833 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 February 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation in Claim 14, line 2, "the mounting portion further comprises a compressive section" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear how the mounting portion comprises a compressive section because the limitation in line 2 "the mounting portion further comprises a compressive section" not shown in drawings or positively described in the specification.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

**Claims 1, 3- 5, 9, 11- 15** are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki (5891591).

Suzuki discloses a connector comprising a housing 10, channels 11 (see Fig. 2 and Col. 2, lines 3-4), a retention structure 11a having a shoulders, alignment posts 12 (Col.2, lines 19-22, and Fig. 3), a plurality of contacts 20 oriented in the same directions (see Fig. 1 and 3) and having a medial section 21 in the form of a tapered cantilever beam (see Fig. 2), a mounting portion 22a, a compressive mating portion 21a having a distal end (see Fig. 2) and flanked by a tab (not labeled, a part of the contact between 21a and 21b, Fig. 2) with projections 21b, and a bend 23, wherein the retention structure 11a engages the distal end of the compressive portion of the contacts to preload the contacts (see Col. 2, lines 24-29).

**In regard to claim 14**, as best understood, Suzuki discloses the mounting portion extends further comprises a compressive section (not labeled, a tail part of the contact 20, to the right of numeral 22 in Fig. 2).

**Claims 16-18** are rejected under 35 U.S.C. 102(e) as being anticipated by Lemke et al (6325644). Lemke discloses a housing 12, a plurality of contacts 66 extending through the housing and exhibiting a preload, and a plurality of fusible elements 82, each secured to a respective one of the contacts (see Abstract, lines 12-15 and 7-12).

**Claims 25 - 28, 30 - 32** are rejected under 35 U.S.C. 102(e) as being anticipated by Lemke et al. (6241535). Lemke discloses a method of making an electrical connector 52, comprising the steps of providing a housing 22, inserting contacts 28 into channels 38, securing fusible elements 35 to the contacts (see Figs. 4-5, and Col. 4, lines 15-21), and preloading distal ends of the contacts with an associated projection 48 of the housing (see Col5, lines 35-44). The contacts are disposed in the same direction in a staggered arrangement (see Fig. 1 and Col. 3, lines 65-67).

**In regards to claim 32**, the contacts are compressed to insert a tab 84 into associated opening in the housing (see Col. 3, lines 14-17 and Col.6, lines 42-52).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591).

**In regards to claim 2**, Suzuki discloses the instant invention substantially except for a fusible element secured to the mounting portion, but Suzuki discloses that the connector mounting on a surface of a PCB (see Col. 2, lines 21-23). It would have been obvious to attach the base portion 22 of the contact 20 to the PCT by commonly use method as soldering that comprising a fusible element.

**In regards to claim 6**, Suzuki discloses the instant invention substantially, except for the contacts are disposed at a pitch of 1 mm. It would been obvious to one having ordinary skill in the art at the time the invention was made to dispose the contacts with a pitch of 1 mm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesh*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980)

**Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Reisinger (5863210). Including the instant invention substantially, Suzuki lacks a vacuum pickup cap. Reisinger teaches a cup 40 (mounting brackets) for a vacuum pickup (see Claim 1). Therefore and for the reason mention above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the structure of Suzuki so as to include the vacuum cap of Reisinger.

**Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Wilmsmann nee Sudmoller (5951303). Suzuki discloses the instant

invention substantially, except for neighboring contacts are oriented in opposite directions in an alternating manner. Wilmsmann nee Sudmoller shows neighboring contacts (12,13) and (12', 13') are oriented in opposite directions in an alternating manner (see Fig. 3) in order to be closely spaced apart on the housing for miniaturization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the orientation of neighboring contacts in such manner as teaches by Wilmsmann nee Sudmoller in order to be closely spaced apart on the housing for miniaturization of the device.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (5891591) in view of Castaneda et al. (5655913). Suzuki discloses the instant invention substantially, except for the contacts are disposed in a staggered arrangement. Castaneda shows contacts 102 and 104 are disposed in a staggered arrangement in order to reduce shorting. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the contacts are disposed in a staggered arrangement taught by Castaneda in order to reduce shorting.

**Claims 16-20 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat et al. (5746626) in view of Walkup et al. (5989049). Kwiat discloses a housing 12, a plurality of contacts 28 extending through the housing and exhibiting a preload (see Fig.2) and a retention structure 2' (see attachment 1, Fig. 2). The contacts

are oriented in the same direction. Kwait does not discuss the contacts preloaded but includes the structure that provides it, such as **tabs** (1') on the distal end of portion 34 and **shoulders** (2') on the top of the compartment 22 and top wall 14 (see Figs. 2 and 3 in the attachment 1).

Including the instant invention substantially, Kwiat lacks a plurality of fusible elements, solder balls, each secured to a respective one of the contacts. Walkup teaches a solder ball 79 secured (solderably attached) to a soldering tail 76 of a contact 7 and is then soldered to a PCB 9.Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the contact structure of Kwiat so as to include the fusible elements, solder balls, of Walkup in order to facilitate and simplify a connection between the contacts and PCB.

**In regards to claim 20**, each contact 28 includes a medial section (not labeled, an area abuts a wall 16), a mounting portion 32, and a compressive mating portion 34 having a distal end, wherein the retention structure 2' (see attachment 1) engages the distal ends (not labeled, lower part of mating portion 34) to preload the contacts (see Figs. 1 and 2).

**Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat (5746626) in view of Walkup et al. (5989049), as applied to claim 16 above, and further in view of Wilmsmann nee Sudmoller (5951303). Kwiat discloses the instant invention substantially, except for neighboring contacts are oriented in opposite directions in an alternating manner. Wilmsmann nee Sudmoller shows neighboring contacts (12,13) and (12',13') are oriented in opposite directions in an alternating manner (see Fig. 3) in order

to be closely spaced apart on the housing for miniaturization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Kwiat so as to include the orientation of neighboring contacts in such manner as teaches by Wilmsmann nee Sudmoller in order to be closely spaced apart on the housing for miniaturization of the device.

**Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat (5746626) in view of Walkup et al. (5989049), as applied to claim 16 above, and further in view of Castaneda (5655913). Kwiat discloses the instant invention substantially, except for the contacts are disposed in a staggered arrangement. Castaneda shows contacts 102 and 104 are disposed in a staggered arrangement in order to reduce shorting. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Suzuki so as to include the contacts are disposed in a staggered arrangement as taught by Castaneda in order to reduce shorting.

**Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwiat (5746626) in view of Walkup et al. (5989049), as applied to claim 16 above, and further in view of Reisinger (5863210). Kwiat discloses the instant invention substantially, except for a vacuum pickup cap. Reisinger teaches a cup 40 for a vacuum pickup (see Fig. 2 and 3, and claim 1). Therefore and for the same reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Kwiat so as to include the cap of Reisinger.

**Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemke et al. (6241535) in view of Wilmsmann nee Sudmoller (5951303). Lemke discloses the instant invention substantially, except for neighboring contacts are oriented in opposite directions in an alternating manner. Wilmsmann nee Sudmoller shows neighboring contacts (12,13) and (12', 13') are oriented in opposite directions in an alternating manner (see Fig. 3) in order to be closely spaced apart on the housing for miniaturization. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Lemke so as to include the orientation of neighboring contacts in such manner as teaches by Wilmsmann nee Sudmoller in order to be closely spaced apart on the housing for miniaturization of the device.

**Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lemke et al. (6241535) in view of Reisinger (5863210). Lemke discloses the instant invention substantially, except for a vacuum pickup cap. Reisinger teaches a cup 40 for a vacuum pickup (see Fig. 2 and 3, and claim 1). Therefore and for the same reason, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the structure of Lemke so as to include the cap of Reisinger.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Moir et al. (6315620) disclose a connector with a contact14 having a mounting portion 32 extends further comprises a compressive section 42.

Mischenko et al.(5980268), Bricaud et al. (5980323), Wilhite (5338231), Comstock et al. (5885090).

Walkup et al. (5989049) teach a solder ball 79 is solderably attached to a soldering tail 76 of a contact 7 and is then soldered to a PCB 9.

Tan (6361345) shows a contact 4 (with recess 421) secured to a solder ball 5 (Fig.60), Harper, Jr. (6193523) includes a contact 15 having a mounting portion 23 receiving a fusible element, such a mass of solder S- a solder ball, and by utilizing solder mass S, connector 10 can be surface mount to PCB, and in (6354850) teaches a contact 21 with a fusible element 29 (a solder ball) that secures to the contact 21 by a reflow, Lemke et al. (6155860) show a fusible element (a solder ball) 105 secures to a tail portion 103 of a contact 100, Cruise et al.(5252769).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Larisa Z Tsukerman whose telephone number is (703)-308-6038. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on 703-308-2319. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7722 for regular communications and (703)-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

L.T.
June 28, 2002

THO D. TA
PRIMARY EXAMINER

Attachment 1

09/783375

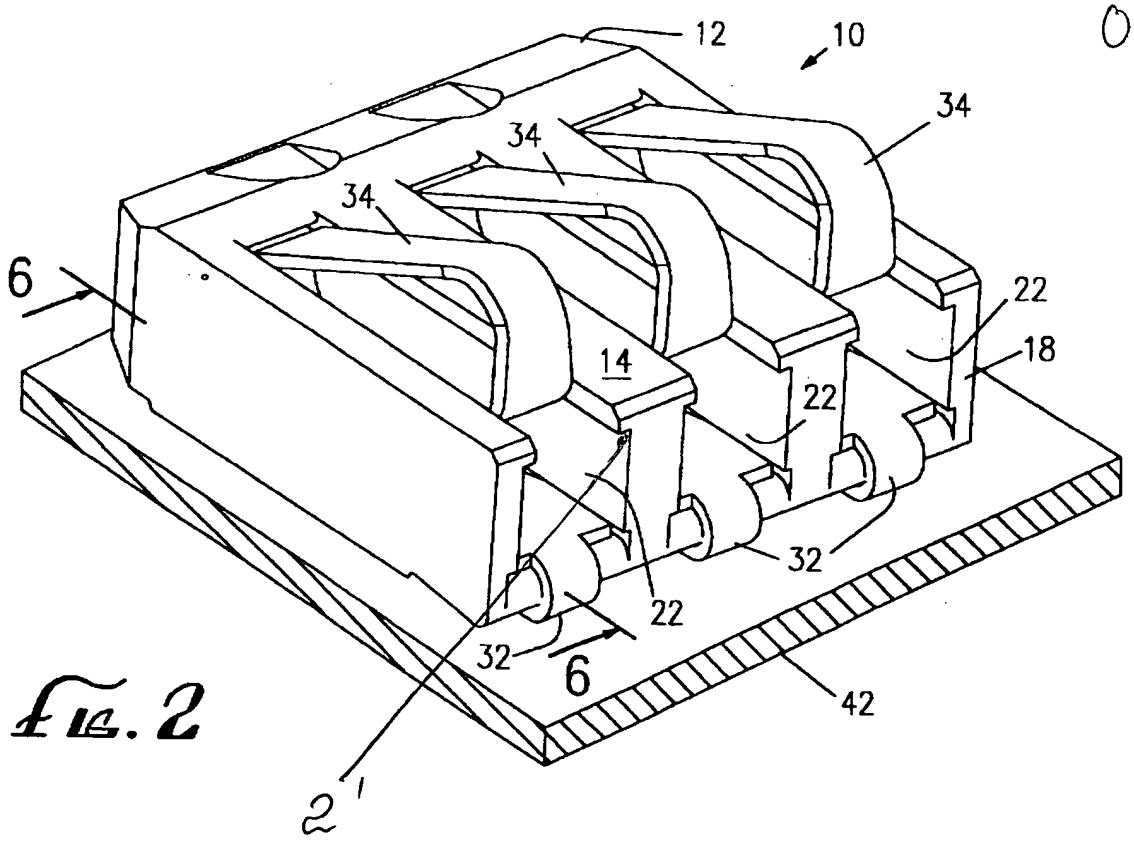


FIG. 2

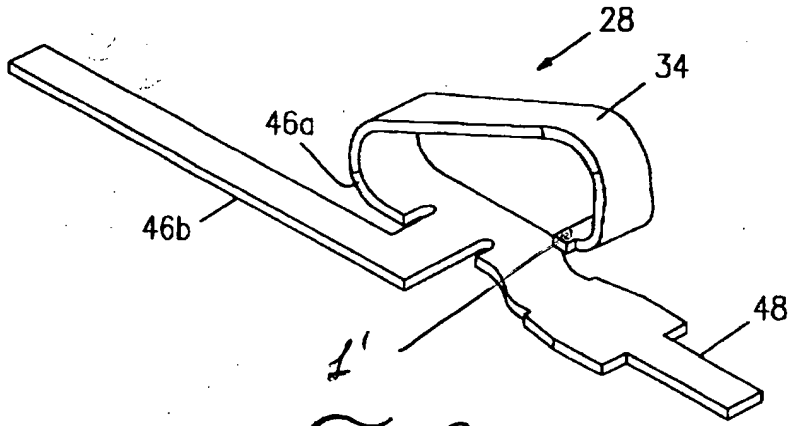


FIG. 3